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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/686,196	10/15/2003	Gregory A. Shteyngarts	16-471	5909

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EXAMINER
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ALIE, GHASSEM

ART UNIT	PAPER NUMBER
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3724

DATE MAILED: 09/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/686,196

**Applicant(s)**

SHTEYNGARTS, GREGORY A.

**Examiner**

Ghassem Alie

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on the filing date of the application.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 October 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)                | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>01/24/04</u> .  | 6) <input type="checkbox"/> Other: _____                                    |

***Drawings***

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, a conductive material sensing probe disposed on the platen in proximity to the knife element, an electrically conductive portion of the striker, and an electrical circuit as set forth in claim 24 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or

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with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claim 24 is rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which is not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Regarding claim 24, the disclosure fails teach what are the components of the conductive material sensing probe and how are these components function. It is not clear how the conductive material sensing probe is connected to an electrical circuit and how the electric circuit provides an indication that of the absence of the thermoformable material.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1-26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Regarding claims 1, 9, 16, 24, and 25, "the cutting edge" lack antecedent basis. See line 4 in claims 1, 9, 16, 24, and 25.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

a person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claim 1, as best understood, are rejected under 35 U.S.C. 102(b) as being anticipated by Forthmann (4,823,660). Regarding claim 1, Forthmann teaches a trim press including a die building up plate 36 that is mounted to the first platen 38 and a striker plate 16 that is

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mounted to a second platen 12. Forthmann also teaches that the trim press moves one of the first or second platens such that the trim press travels between a load position in which a cutting edge 32 is spaced from the striker plate 16 and a cutting position in which the cutting edge 32 confronts the striker plate 16. Forthmann also teaches a die 30 for cutting a thermoformed plastic article from a sheet 2 of thermoformable plastic. Forthmann also teaches that the die includes a knife element 30 connected to the die build up plate 36 that has a cutting edge 32 for serving the thermoformable plastic sheet when the knife element 30 confronts the striker plate 16. Forthmann also teaches a heater 170 communicating with the knife element 30 for heating the knife element 30. See Figs. 1-3 and 4-8 and col. 3, lines 30-68 and col. 4, lines 1-68 in Forthmann.

8. Claims 9, 10, 16, 18, 22, and 23, as best understood, are rejected under 35 U.S.C. 102(b) as being anticipated by Rosen (Non-Patent Literature Document, Thermoforming: Improving process performance, pages 14-17). Regarding claim 9, 10, 16, 18, 22, and 23, Rosen teaches a trim press including a die building up plate that is mounted to the first platen and a striker plate 16 that is mounted to a second platen. Rosen also teaches that the trim press moves one of the first or second platens such that the trim press travels between a load position in which a cutting edge is spaced from the striker plate and a cutting position in which the cutting edge confronts the striker plate. Rosen also teaches a die for cutting a thermoformed plastic article from a sheet of thermoformable plastic. Rosen also teaches that the die includes a knife element connected to the die build up plate 36 that has a cutting edge for serving the thermoformable plastic sheet when the knife element confronts the striker plate. See page 14 in Rosen. Rosen also teaches a die travel stop mounting to the die build up

plate that limits travel of the trim press by engaging a feature on the striker plate when the trim press moves beyond the cutting position. The die travel stop is mounted on the die build up plate and it is located between the knife elements. The die travel stop is also engaged with the conical-shaped protrusion of the plastic which is located on the striker plate. See pages 14 and 16 in Rosen.

***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claim 1-7, 11-13, 19-21, 25, and 26, as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Rosen (Non-Patent Literature Document, Thermoforming: Improving process performance, pages 14-17) in view of Harcuba et al. (4,051,754), hereinafter Harcuba, or Obara (JP405154795A). Regarding claims 1, 11, 19, and 25, Rosen teaches a trim press including a die building up plate that is mounted to the first platen and a striker plate 16 that is mounted to a second platen. Rosen also teaches that the trim press moves one of the first or second platens such that the trim press travels between a load position in which a cutting edge is spaced from the striker plate and a cutting position in which the cutting edge confronts the striker plate. Rosen also teaches a die for cutting a thermoformed plastic article from a sheet of thermoformable plastic. Rosen also teaches that the die includes a knife element connected to the die build up plate 36 that has a cutting edge for serving the thermoformable plastic sheet when the knife element confronts the striker

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plate. See page 14 in Rosen. Rosen does not a heater communicating with the knife element for heating the knife element. However, the use of a heater that communicates with a cutting knife for cutting plastic material is well known in the art such as taught by Harcuba or Obara. Harcuba teaches a heater 7 that communicates with a cutting knife 2, 3 for cutting plastic material 5. See Fig. 1 and col. 2, lines 11-59 in Harcuba. Obara also teaches a heater 8 that communicates with a cutting knife 7 for cutting plastic material 2. See Figs. 1-2 and translated abstract in Obara. It would have been obvious to a person of ordinary skill in the art to provide Rosen's trim press with the heating element as taught by Harcuba or Obara in order to soften the plastic material before cutting and facilitated the cutting operation.

Regarding claims 2, 12, and 20, Rosen as modified by Obara teaches that the heater 8 is adhered to the knife element. The heater 8 is attached to the knife element 7. The attachment of the heater to the knife element is considered to be the same as adhering the heater to the knife element, since the heater is tightly connected to the knife element. In addition, Official notice is taken that the use of adhesive to attach an element to another is well known in the art.

Regarding claims 3, 13, and 21, Rosen as modified by Harcuba teaches everything noted above including a thermocouple 17 for measuring a temperature of the knife element and a temperature control module for controlling the heater based on the measured temperature to maintain the knife element 2, 3 within a range of desired temperature. See Fig. 1 and col. 2, lines 11-25. The thermostat 17 functions the same as the thermocouple and measures and regulates the temperature between the blade and the heater 7. In addition, the use of thermocouple for measuring the temperature of the blade and a temperature control

module for controlling the temperature of the heater and the knife element is well known in the art such as taught by Smith et al. (5,451,288), hereinafter Smith. Smith teaches a thermocouple 14 connected to a knife element 25, 26 and a temperature control module 85. See Figs. 1-8 and col. 9, lines 47-65 in Smith.

Regarding claim 4, Rosen teaches everything noted above including a die travel stop mounting to the die build up plate that limits travel of the trim press by engaging a feature on the striker plate when the trim press moves beyond the cutting position. The die travel stop is mounted on the die build up plate and it is located between the knife elements. The die travel stop is also engaged with the conical-shaped protrusion of the plastic which is located on the Striker plate. See pages 14 and 16 in Rosen.

Regarding claim 5, Rosen teaches everything noted above including that the die travel stop includes a post that is mounted to the die build up plate and limits travel of the trim press to no further than a position at which the cutting edge first contacts the striker plate. The die travel stop has a shape of a post with conical recess. See pages 14 and 16 in Rosen.

Regarding claims 6, 7, and 26, Rosen teaches everything noted above including a die board, which is movably mounted to the die build up plate and moves within a range of positions on a plane defined by the die build up plate and wherein the knife element is fixed to the die board. Rosen also teaches a die location pilot connected to the die board that engages a registration feature associated with the plastic article such that when the trim press is in cutting position the registration feature co-acts with the location pilot to move the die board relative to the die build plate. Rosen also teaches that the die location pilot has a post and a conical recess. See pages 14 and 16 in Rosen.



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11. Claims 8, 14, 15, and 17, as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Rosen in view of Harcuba or Obara as applied above, and in further view of Carll (2,313,801) or Whistler (1,939,478). Regarding claims 8, 14, and 17, Rosen teaches everything noted above except that the die board has a plurality of mounting holes that are oversized with respect to mounting posts on the die build up plate such that when the die board is mounted to the die build up plate the die board can slide on the die build up plate within the range defined by the oversized holes. Carll teaches a die board 16 (which is a segmented die board) having a plurality of mounting holes 26 that are oversized with respect to mounting posts on the die build up plate 50 such that when the die board 16 is mounted to the die build up plate 50 and the die board 16 can slide on the die build up plate 50 within the range defined by the oversized holes 36. See Figs. 1-3 in Carll. Whistler also teaches a die board 24 (which is a segmented die board) having a plurality of mounting holes 27 that are oversized with respect to mounting posts 28 on the die build up plate 16, 17 such that when the die board 24 is mounted to the die build up plate 16, 17 and the die board 24 can slide on the die build up plate 16, 17 within the range defined by the oversized holes 27. See Figs. 1-10 in Whistler. It would have been obvious to a person of ordinary skill in the art to provide Rosen's trim press, as modified above, with the oversized holes on the die board as taught by Carll or Whistler in order to adjust the knife element with respect to the die build up plate.

Regarding claim 15, Rosen teaches everything noted above including that the post element includes a generally conical recess that engages a protrusion on the plastic sheet. See pages 14 and 16 in Rosen.

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12. Claim 24, as best understood, is rejected under 35 U.S.C. 103(a) as being unpatentable over Rosen or Forthmann in view of Oh et al. (2002/0166428), hereinafter Oh. Regarding claim 24, Rosen or Forthmann teaches everything noted above except a conductive material sensing probe disposed on the die platen in proximity to the knife element that contacts thermoformable plastic when the die platen confronts the striker platen and wherein in the absence of thermoformable plastic the material sensing probe contacts an electrically conductive portion of the striker platen to activate an electrical circuit that provides an indication of the absence of thermoformable plastic. However, the use of a conductive sensing probe for sensing the absence of a material on a platen or the like is well known in the art such as taught by Oh. Oh teaches a conductive material sensing probe 31 disposed on the die platen 10 in proximity to the knife element 20 that contacts thermoformable plastic 52 when the knife element 20 confronts the striker platen 10 and wherein in the absence of thermoformable plastic the material sensing probe contacts an electrically conductive portion of the striker platen to activate an electrical circuit that provides an indication of the absence of thermoformable plastic. The contact of the blade 20 on the conductive chuck 10 stops the scribing blade. Therefore, the absence of the material on the chuck table triggers the stop unit stop the blade 20. See F1-6 and page 2, paragraphs 21-34 in Oh. It would have been obvious to a person of ordinary skill in the art to provide Rosen's trim press or Forthmann's trim press with the conducting material sensing probe as taught by Oh in order to avoid the cutting operation when the material to be not on the striker plate and consequently prevent possible damages on the knife element.

### ***Conclusion***

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13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Lefevre et al. (4,243,366), Olson ((3,587,377), Brown (4,559,800), Engler (2,122,368), Waltlalo et al. (4,064,776), and Blaster (2,706,238) teach a knife element having a heater. Pearson et al. (5,794,339), Martin (4,633,810), Bennett (4,951,537), Soda et al. (4,431,172), Giovannone et al. (5,795,535), and Warner (3,122,048) teach a trim press having a die location pilot.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ghassem Alie whose telephone number is (703) 305-4981.

The examiner can normally be reached on Mon-Fri 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Allan Shoap can be reached on (703) 305-1082. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and (703) 872-9302 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1148.

GA/ga

September 3, 2004

  
Allan N. Shoap  
Supervisory Patent Examiner  
Group 3700